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Notice of Allowability	Application No.	Applicant(s)	
	09/986,027	OIKAWA, YOICHI	
	Examiner	Art Unit	
	Denise S Allen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 21 January 2004.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 07 November 2001 and 25 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendment

In light of the Applicant's amendment to claim 5 on January 21, 2004, the objection to claim 5 in the Office Action on October 21, 2003 has been withdrawn.

Response to Arguments

Applicant's arguments, see page 9, filed January 21, 2004, with respect to claims 1 – 9 have been fully considered and are persuasive.

The rejection of claims 1 and 3 – 9 under 35 U.S.C. 102(e) as being anticipated by Lemoff et al in the Office Action on October 21, 2003 has been withdrawn.

The rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over Lemoff et al in the Office Action on October 21, 2003 has been withdrawn.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard A. Gollhofer on April 16, 2004.

The application has been amended as follows:

In the claims:

In claim 4, line 17, after "components" insert - - of the first and second frequencies - -.

In claim 4, line 23, after "components" insert - - of the first and second frequencies - -.

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In claim 5, line 34, after “components” insert - - of the first, second, third, and fourth frequencies - -.

In claim 5, line 39, after “components” insert - - of the first, second, third, and fourth frequencies - -.

In claim 5, line 45, after “components” insert - - of the first, second, third, and fourth frequencies - -.

In claim 5, line 51, after “components” insert - - of the first, second, third, and fourth frequencies - -.

In claim 7, line 17, after “components” insert - - of the first and second frequencies - -.

In claim 7, line 22, after “components” insert - - of the first and second frequencies - -.

In claim 8, line 31, after “components” insert - - of the first, second, third, and fourth frequencies - -.

In claim 8, line 36, after “components” insert - - of the first, second, third, and fourth frequencies - -.

In claim 8, line 42, after “components” insert - - of the first, second, third, and fourth frequencies - -.

In claim 8, line 47, after “components” insert - - of the first, second, third, and fourth frequencies - -.

REASONS FOR ALLOWANCE

The following is an examiner’s statement of reasons for allowance:

Claims 1 – 3, 6, and 9 are allowable over the prior art for at least the reason the prior art fails to teach and/or suggest an optical switch wherein an additional signal of a prescribed

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frequency is superimposed on the application voltage for driving the mirror and wherein a signal component of the prescribed frequency is detected and multiplied by the additional signal to produce a resulting signal from which a DC component is extracted and used to change the application voltage as set forth in the claimed combination.

Claims 4 and 7 are allowable over the prior art for at least the reason the prior art fails to teach and/or suggest an optical switch wherein first and second additional signals of first and second frequencies are superimposed on the first and second application voltages for driving the mirror in two directions and wherein signal components of the first and second frequencies are detected and multiplied by the first and second additional signals to produce first and second resulting signals from which first and second DC components are extracted and used to change the first and second application voltages as set forth in the claimed combination.

Claims 5 and 8 are allowable over the prior art for at least the reason the prior art fails to teach and/or suggest an optical switch wherein first, second, third, and fourth additional signals of first, second, third, and fourth frequencies are superimposed on the first, second, third, and fourth application voltages for driving the former-stage mirror in two directions and the latter-stage mirror in two directions and wherein signal components of the first, second, third, and fourth frequencies are detected and multiplied by the first, second, third and fourth additional signals to produce first, second, third, and fourth resulting signals from which first, second, third, and fourth DC components are extracted and used to change the first, second, third, and fourth application voltages as set forth in the claimed combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

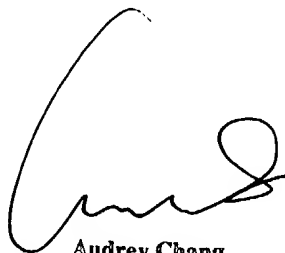
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (571) 272-2305. The examiner can normally be reached on Monday - Friday, 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


dsa

Denise S Allen
Examiner
Art Unit 2872



Audrey Chang
Primary Examiner
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